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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,183	08/06/2003	Pekka Kekki	16756	9160

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EXAMINER

PRATS, FRANCISCO CHANDLER

ART UNIT	PAPER NUMBER
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1651

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/635,183

Applicant(s)

KEKKI, PEKKA

Examiner

Francisco C. Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-5-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claims 1-24 are presented for examination.

Claim Objections

Claim 18 objected to because of the following informalities: The significance of the quotation marks after the period is unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehmuusaari et al (U.S. Pat. 4,675,296) in view of Marinchenko et al (Appl. Biochem. Microbiol. 15(6):670-673 (1979)).

Lehmuusaari discloses a process of preparing a β -amylase from barley, wherein the de-husked but intact grain is steeped with SO₂ in a manner such that after enzyme extraction the grain

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can be used for other processes, including the production of barley syrup or barley starch. See column 3, lines 3-18.

Lehmussaari differs from the claims under examination in that Lehmussaari does not disclose the use of a cellulase enzyme in the preparation of the cereal β -amylase. However, Marinchenko discloses that treatment of barley malt with cellulase from the mold *Geotrichum* substantially increases the amylolytic activity of the barley preparation. Thus, the artisan of ordinary skill, recognizing from Marinchenko that treatment of β -amylase-containing barley material results in an increase in enzyme activity, clearly would have been motivated to have treated the barley material of Lehmussaari with cellulase, so as to increase the amount of β -amylase recovered therefrom. Because of Marinchenko's disclosure that cellulase treatment increases the amount of free amylolytic activity from cereal, i.e. barley, the artisan of ordinary skill would have had a reasonable expectation that the disclosed cellulase treatment would have resulted in an increased amount of recoverable β -amylase.

Moreover, the amount of enzyme as well as the cellulolytic activities contained therein clearly would have been recognized to have had an effect on the amount of extracted β -amylase resulting from the process. Thus, the determination of a suitable amount of enzyme as recited in claims 17 and 18, as

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well as the determination of suitable specific cellulolytic activities as recited in claim 16, would have been considered an obvious matter of routine optimization, and therefore obvious under § 103(a), given the cited prior art's clear disclosure of the desirability of using a cellulase to free β -amylase from barley tissue. Further still, the use of cellulase preparations from known fungal sources such as those recited in claim 20, would have been similarly considered obvious, motivation for using cellulose from the claimed organisms being derived from Marinchenko's disclosure of the desirability of using cellulase to increase the amount of available β -amylase activity. A holding of obviousness over the cited claims is therefore required.

No claims are allowed.

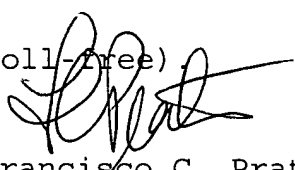
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C. Prats whose telephone number is 571-272-0921. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can

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be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)



Francisco C. Prats
Primary Examiner
Art Unit 1651

FCP